

Q1 cont conventionally known as Microsoft Project from Microsoft Corp., and another product is ABT Project Workbench from the Applied Business Technology Corporation. These software tools allow companies to define project plans in accordance with tasks and time schedules for available personnel resources, and are typically operated in stand-alone fashion or in conjunction with other commercially available software products for facilitating the overall management of projects. However, these commercially available products are designed for specific applications and are therefore limited in capability, as well as having no built in capability for managing project funding such as the CPAR example introduced above.

Please replace the paragraph beginning on page 3, line 25 with the following:

Q2 An example of such previously disclosed systems include United States Patent No. 5,111,391, which describes a staff scheduling data processing system and method which schedules staff and management personnel at locations remote from a central location by applying central location policy to unique remote location data to insure the optimum staff schedule for each remote site.

Please replace the paragraph beginning on page 4, line 6 with the following:

Q3 United States Patent No. 5,767,848 describes a development support system for supporting new product development activities, which includes a target storage for storing target values of schedules of product development, and the cost and the performance of the

product; an estimating unit for estimating schedules of product development and the cost and the performance of the product on the basis of the models stored in the model storage.

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The '848 patent includes a unit for monitoring electronic mail necessary for carrying out tasks essential to the development of the product, extracting information relating to the progress of tasks essential to carrying out the development of the product, and providing the members of the development project team with information about the progress of the tasks.

Please replace the paragraph beginning on page 4, line 16 with the following:

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United States Patent No. 5,765,140 describes a dynamic project management system which includes a server network and a master database.

Please replace the paragraph beginning on page 4, line 18 with the following:

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United States Patent No. 5,692,125 describes a scheduling system, wherein events and/or groups of events are checked at a scheduling time to insure that certain fixed conditions associated with the event(s) are satisfied.

Please replace the paragraph beginning on page 5, line 23 with the following:

ab Thus, the present-system has several stages. Individual employees are permitted to be individuals and plan their work as individuals. Individuals are only asked to plan their work within a limited tasking horizon. Employees track their progress using verbs that are designed to capture the reasons behind positive and negative predictive ability. Verbs are analyzed and expected predictive error, also known as risk, is calculated. Once verbs are captured, they can be analyzed for ways to improve predictive ability. In addition, the risk can be factored into the initial planning stage so as to include an expected predictive error in the initial planning. Tasks may also be analyzed and linked to other tasks to account for inherent related task risk.

Please replace the paragraph beginning on page 6, line 13 with the following:

a7 Next, verbs are selected that capture the types of dialogues that an employee faced with the task may use to describe their progress. Verbs are meant to capture generalized categories of dialogue that workers would routinely engage in if they were each interviewed on a routine basis throughout a project. For example, verbs may be selected to provide a series of potential answers to a standard question, such as "why do you think you performed this task faster or slower than estimated?" In one embodiment, verbs can be broken down into employee dependent verbs (health, mental well being, etc.), task related verbs (new computers not working, etc.), environmental verbs (snow, etc.) or in any

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cont number of ways. Verbs are used to categorize and classify employee responses to assist in maximizing predictive ability.

Please replace the paragraph beginning on page 9, line 13 with the following:

a7
The present invention can be run on an internal network as shown in figure 1 or over an external network (including the Internet) as shown in figure 2. Employees are connected to a network database 5 through the use of PCs or workstations 1, 2, 3. A manager is also connected to the network database 5 through a PC or work station 4. Those of ordinary skill in the art will understand that a PC with a Pentium processor, 16 megs of RAM, a 5 meg hard-drive, an operating system (such as Windows '95 or higher) and a 56k modem or network connection are adequate to implement the present invention. In its most basic embodiment the entire system can be provided on a single PC with a Pentium processor, 64 megs of RAM, a 5 GB hard-drive, an operating system (such as Windows NT or similar operating system) that multiple users [user's] have access to. Likewise, in a hardwired embodiment, similar components may be provided in a hardwired form.

Please replace the paragraph beginning on page 9, line 24 with the following:

a9
Another implementation involves web server software running on a server that is used to produce an external network configuration. As shown in figure 2, workstations 1, 2, 3 and 4 are connected to an external network, such as the Internet 6. A server 7, such as

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cont.
a Netscape ES server is provided that is operationally connected to a workstation 8, such as a Sun Microsystems Workstation. Based on these two types of network configurations, the database 5 may be provided either externally or internally to one or more of the PCs or workstations 1, 2, 3 and 4.

Please replace the paragraph beginning on page 14, line 4 with the following:

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As shown in figure 5 after a task 24 has been assigned, the task needs to be scheduled 22. Scheduling is accomplished by having the employee, or in some embodiments the employer, assign start and stop dates 26. Although the present invention is described with respect to start and stop dates, those of ordinary skill in the art will recognize that the invention may be implemented using a start date and a number of working hours or in any other time and work measurement system, such as a start date and cost. The start and stop dates set the standard against which the scheduler's planning abilities are measured. It is also expressly contemplated that a default start and stop date may be provided with the task that the employee may modify.

Please replace the paragraph beginning on page 14, line 20 with the following:

A11
The verb is used to classify the reason for churn, or in other words the reason for why the task was performed as planned or not performed as planned. Churn may be broken down into start churn, completion churn, time churn, cost churn or any other variety. Churn is simply a measure of the relative predictive ability of the employee in

all relationship to one or more tasks. Churn may be a composite figure or an index of one particular type of ability.

Please replace the paragraph beginning at page 15, line 13 with the following:

- Complete dates may not precede start dates of the same type.

all Please replace the paragraph beginning on page 18, line 1 with the following:

all If the employee chooses to view tasks 80, the system retrieves the tasks assigned to that employee 66 and displays them 68. If a task is new 70, the employee is provided with the ability to set the anticipated start and stop date 78 for the new task. If the tasks are existing tasks, the employee may update his or her progress 72 on any of the tasks 74 by entering an actual start or stop date. In addition, for each task trial receives a data input, the employee is requested to enter a verb and/or to select a verb from a predetermined list 76. The logic diagram is ended at 81.

Please replace the paragraph beginning on page 18, line 8 with the following:

all ~~13~~ 13 Determining why tasks are not performed as planned is one of the goals of the present invention. When tasks are not performed as planned they are classified as churn. The verbs that are associated with the reason for the churn can then be analyzed to

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cont determine what if anything the employer can do to either minimize the churn or anticipate its occurrence.

Please replace the paragraph beginning on page 18, line 19 with the following:

A14 Churn can be analyzed on many different levels. Churn may be calculated by task, by task type, by employee, by groups of employees, etc. Churn is monitored on multiple levels to help identify why the churn occurred 38. Churn helps identify what an employer can do to reduce churn and also helps the employer recognize what churn it will never be able to reduce. By quantifying churn, the employer may optimize the working environment while at the same time quantifying the intangible variable that force tasks and projects to be completed in a manner other than what was predicted.

Please replace the paragraph beginning on page 19, line 1 with the following:

A15 When churn is encountered, it is important to know the reason for the churn and whether it has anything to do with the task itself or the individual who performed the task. The verb associated with the positive churn rate is analyzed to determine what if any effect it should have on an assigned risk factor 40.

Please replace the paragraph beginning on page 19, line 21 with the following:

Q16 The verbs associated with the churn are important is assigning task risk values and in deciding whether there is anything that an employer can do to minimize the churn. For example, if the same worker takes 6 days to do an "install" but identifies a family emergency (personal reason) for the delay, the risk factor assigned to the task may not be modified at all. The reason for the churn is employee based and not task based. The employee's risk factor may also only be effected if the incident rate of family emergencies experienced by the worker exceeds some predetermined norm. Thus, if the employee experiences a 10% greater likelihood of having personal emergencies and on average workers schedules are effected by personal emergencies in 10% of the tasks that are performed, the worker may have a 1% increased risk factor (10% additional risk of a 10% norm) of incurring churn. If the worker's churn is 1 day and the risk factor is 1%, the worker may have a .01 day increased risk.

Please replace the paragraph beginning on page 20, line 12 with the following:

Q17 Because the present invention mirrors how people actually work, it may use Human Resource (HR) data to assist in predicting likely work patterns. In an alternate embodiment, the churn and risk assessment is made in combination with the employee's human resource data and/or any other data that the employee is willing to share. Events, hobbies, children, family obligations as well as other significant events that can be quantified can be worked into the churn/risk calculation. An employee's risk may fluctuate

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in relation to trackable events and assigned accordingly. For example, a risk factor may increase or decrease for an employee with children during known vacation periods. When children are home during vacations, depending on the family situation, the employee's risk value may increase or decrease. Thus, if an employee's personal profile indicates that they have children, the children's vacation can automatically be factored into the churn/risk calculations. Likewise, other commitments, whether the employee is on a sports team or predictable event, such as vacation, can be used to identify churn patterns and optimize risk calculations. The net effect of this type of risk analysis is that the employer can capture the intangible reasons for churn and make realistic decisions about how long tasks will take.

Please replace the paragraph beginning on page 21, line 3 with the following:

Q18

Another important advantage of the system is in identifying employees with below average intangible churn i.e., employees who work equally hard regardless of other commitments or events. The employer may use risk management to ensure that employees do not overwork themselves and take appropriate time off.

Please replace the paragraph beginning on page 21, line 12 with the following:

Q19

Tasks are first extracted 86 and the associated churn and verbs are determined 88. The churn is classified as positive or negative 90. The verb, that is, the reason for the churn, is then analyzed 92. If verb categories are used, the verb can first be compared to the known employee dependent verbs 94. If the verb is employee based, in other words,

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unique to that employee, the verb is compared to an expected norm value, and a risk factor is assigned 96. The risk factor is recorded in a database 98 and, if necessary, an overall risk factor is modified 100 for the employee. If the churn is not employee dependent 94, the churn is next analyzed to determine if it is task related 102. If the churn is task related, the churn is compared to a norm and assigned a weight 110, and the information is recorded 112. Likewise, the overall risk factor associated with that task may be modified 114. If the churn is not related to the employee or a particular task, it is classified as environmentally related 104. The churn is recorded 106, and the overall environmental risk factor associated with environmental related churn is modified 108. If another task/churn requires analyzing 115, it is sent through the same process until the program ends 116.

Please replace the paragraph beginning on page 22, line 1 with the following:

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One of the main goals of the present system is to assist in the planning stage, before tasks are assigned. Therefore, a predictive management system 42, as shown in figure 7, is designed to assist in identifying how long a project, composed of multiple tasks, will take and predict the risk (unexpected time variations) involved with the project.

Please replace the paragraph beginning on page 22, line 10 with the following:

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The predictive management system then looks for direct and indirect matches amongst the data and compiles the risk 50. For example, if one or more employees have performed a task that is part of the project, the time period that the task will likely take to

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perform can be estimated. If direct task matches are not possible, the system can nevertheless use employee based risk and/or environmental risk to estimate the non-task dependent risk that the project is likely to encounter. The system can also compare employee bases and extrapolate predictive information. Graphing of risk factors can also be used to extrapolate risk factor trends that are other-wise not captured by the current system.

Please replace the paragraph beginning on page 22, line 19 with the following:

A22

Risk may be calculated for a project as a whole, for given time periods or for given tasks. This provides the employer with general predictive information and the ability to identify the most likely place in a project where it will have the greatest likelihood of encountering problems. Staffing decisions and realistic goals can thus be set by management before tasks are assigned to groups or individual employees.

Please replace the paragraph beginning on page 23, line 1 with the following:

A23

One example of a predictive management center 118 is shown in figure 10. Tasks are identified 120 along with available employees 122. Environmental risk factors 124 and each employee's risk profile are extracted 126 from a database. Next, the tasks that will need to be completed are compared against the tasks that the employees have performed in the past 128. Environmental and employee personal risk is added 130 and an average time for each task is computed together with a composite risk factor 132. Tasks

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that do not have a direct match 134 are identified and an estimation is made by the operator as to how long each unmatched task should take to complete 136. Employee and environmental risk factors are added, together with the operator's new task predictive risk factor 138. A total completion time and project risk factor is then generated 140.

Please replace the paragraph beginning on page 24, line 4 with the following:

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Another feature of the present invention relates to the ability to capture task data and automatically update the project status based upon the captured data. Figure 11 provides a block flow diagram of an automatic project updating system 400. The automatic project updating system 400 is comprised of a task data processing system 410 and various mediums which may provide data such as a computer 420, phone or fax machine 430, copier 440, laptop or similar device (i.e. palm pilot) 450, cell or wireless phone 460, or any other medium which may provide data. As the various mediums are used by personnel, the task data processing system 410 automatically collects verb and object data.
